

ABSTRACT OF THE DISCLOSURE

[0098] Systems and methods providing high performance data manipulation and searching using a novel data structure for storing data values. The data structure includes a length value in combination with a digit-string data value. The combined length and data value can be stored in a data structure that may be sorted according to standard sorting techniques. When a set of data structures is sorted, the resulting order of the data values can be employed to increase performance of the data engine. In one embodiment, the length value is stored in the end portion of the data structure and in another embodiment, the length portion is stored in the beginning portion of the data structure. Range-based searches and ambiguity checking operations are also presented herein.